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ABSTRACT

A meta-analysis explored the association between past studies on intercultural communication effectiveness and intercultural communication competence, and examined the relationship between knowledge-based and skill-based attributes in predicting intercultural communication competence. A total of 16 studies met the criteria of having recoverable quantitative data measuring aspects of intercultural communication competence or effectiveness and occurred within the context of intercultural interaction. The studies were coded for five characteristics. Results indicated empirical support for arguing that there is a strong association between studies of intercultural communication competence and intercultural communication effectiveness--measurement of intercultural communication competence and intercultural communication effectiveness was demonstrated to be equivalent. Results also demonstrated that both knowledge and skills were positive predictors of the association between intercultural communication competence and intercultural communication effectiveness. Formerly, many academic studies of intercultural communication competence were motivated by four practical needs: (1) to explain overseas failures; (2) to predict overseas successes; (3) to develop personnel selection strategies; and (4) to design, implement, and test sojourner training and preparation methodologies (Ruben, 1989). More research efforts should be aimed at empirically testing theoretical assumptions and the measurement of various moderator variables. (Contains 88 references and 2 tables of data.) (RS)

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An Evaluation and Meta-Analysis of Intercultural Communication Competence Research

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An Evaluation and Meta-Analysis of Intercultural Communication Competence Research

Over the last forty to fifty years, scholars from several disciplines have explored an area of research generally known as intercultural communication competence (Koester, Wiseman, & Sanders, 1993). Their efforts have provided interesting insights into attitudes and behaviors which contribute to effective intercultural interactions and successful cultural adaptation. However, a number of limitations have hindered the study of intercultural communication competence. Spitzberg (1989) concluded, "Indeed, the literature reveals an unwieldy collection of terminologies, a general lack of specific or practical predictive statements, and a deficit of conceptual explanatory integration" (p.242). Similar concerns have been echoed by other researchers (i.e., Collier, 1989; Driskill, 1991; Hammer, 1989; Kim, Y., 1991; Kim, M , 1993; Koester, et al., 1993; Martin, 1987; Martin & Hammer, 1989; Ruben, 1976, 1989; Spitzberg, 1989, 1991).

The origins of intercultural communication competence research may have contributed to these inconsistencies in terminology and lack of conceptual explanatory integration in two ways. First, concern for practical goals initially took precedence over theory development. Ruben (1989) explains that many academic studies of intercultural communication competence were motivated by four practical needs: "(1) to explain overseas failures; (2) to predict overseas successes; (3) to develop personnel selection strategies; and (4) to design, implement and test sojourner training and preparation methodologies" (p. 189). Hence, efforts toward constructing theories of intercultural communication competence lagged behind research. Thus, contributing to a lack of conceptual organization and the duplication of research efforts.

Second, researchers concerned with these issues came from different disciplinary perspectives with a variety of assumptions, outcome goals, and methodologies (Koester, et al., 1993). While they were all interested in understanding intercultural communication competence, their differences isolated them from each other's work again contributing to the duplication of efforts and a disjointed collection of findings. In response to these problems extant in the intercultural communication competence literature, scholars (e.g. Martin, 1993) have made pleas for research efforts to focus on integrating empirical research on intercultural communication competence.

Several scholars, in this decade, have responded to this concern for integration. Their efforts have generally taken two forms. Some have attempted to integrate previous research by building theories or theoretical models while others have compiled literature reviews frequently suggesting categorization schemes for organizing this research (see Chen, 1990; Chen & Starosta, 1996; Cupach & Imahori, 1993; Imahori & Lanigan, 1989; Kim, 1993; Spitzberg, 1991, 1994, 1997; Ting-Toomey, 1993). In contrast to these approaches, this study attempts to answer Martin's (1993) plea for integration through empirical analyses. Specifically, this study will address two previous research limitations, duplicity of nomenclature and lack of conceptual integration, by using a meta-analytic approach to summarize previous quantitative efforts in intercultural communication competence research. Further, this meta-analysis will explore relationships between moderator variables such as, report type, age, context, ethnic background, and design type and intercultural communication competence research outcomes. Justification for this approach is based on the potential for meta-analyses to identify trends in research areas by combining and comparing the results of a body of research statistically.

Meta-Analysis Justification

The level of Type II error (false negatives, or accepting the null hypothesis when it is false) is typically about 50% for the social sciences. Type II error is the result of a combination of three factors: (a) level of Type I or "alpha" error, (b) size of the observed effect, and (c) the size of the sample. Typically, the size of the Type I error is set at 5% ($p < .05$) by scientific convention. Type II error is inversely related to Type I error, the only way to reduce Type II error would be to increase Type I error and this seems unacceptable. The second component simply recognizes that larger effects (measured statistically) are easier to detect than small effects. This cannot be controlled by the investigator since the effect is what the investigator is trying to estimate. The final component is the size of the sample, the larger the sample the greater the power of the statistic (Cohen, 1987). Meta-analysis is the process of combining estimates from independent investigations. This process of averaging (or combining) effects has the impact of reducing Type II error by increasing the power of the statistic. The goal of meta-analysis is to go from small sample (relatively) tests or estimates of effects to larger sample estimates of the effects.

Meta-analysis accomplishes this task by taking the raw statistical information contained in the original data reports and translating that into a common metric. This common metric permits a direct comparison of one study to another. This comparison is in the form of combining the statistical information in one report to estimate a population parameter. The key is to remember that each investigation provides a sample estimate of the population parameter. Theoretically, each sample estimate will differ from the population parameter as a result of two sources of variability: (a) random sampling error, and (b) systematic sources of variation.

Random sampling error means that any estimate may vary from the population parameter in an unpredictable manner. The size of this variation is inversely related to the size of the sample, the larger the sample the smaller the size of the sampling error. Systematic variability considers the possible influence of moderator variables as well as other methodological artifacts that influence the size of the effect. Methodological artifacts (e. g., restriction in range, regression to the mean, and attenuated measurement) can be corrected for mathematically (Hunter & Schmidt, 1990). Moderator variables consist of potential systematic (or codable) theoretical and methodological features that can be compared to determine whether the observed average effect differs for different groups. Moderator variable analysis permits a comparison of effects based on different samples, measures, or other features that are believed or argued to be a source of inconsistency in research results.

Areas of empirical investigation often develop arguments or explanations for inconsistent findings that are based on the introduction of methodological or theoretical systems that are expected to account for the divergent set of findings. The advantage of meta-analysis is twofold: (a) explicit and systematic consideration of features and (b) formal testing and comparison of the possibilities. Meta-analysis requires that any potential explanation be articulated in a manner that the available investigations can be classified or evaluated. A system of coding permits other investigators to replicate and validate the decisions made in the original meta-analysis. In addition, future research can consider, expand, test, or reject these formulations. The advantage of the formal system of considering features indicates that the analysis is not based on the expertise or personal insight of the reviewer but rather is one that other scholars can share and decide to adopt.

The use of formal testing provides the ability to either conduct a test or requires an explanation about why a formal test cannot be undertaken. The key is that any conclusion offered comes from an examination that considers all the available evidence (increasing the efficiency of the procedure) and presents an analysis others can consider that examines the quantitative impact of what would generally be considered qualitative features of the context of the investigations. The technique permits a formal test, or an explicit admission that no formal test is possible, of the various proposed systems of explanation for available inconsistency.

The last advantage of meta-analysis is one not clearly articulated. Meta-analysis expects that there will exist formal rules for the literature search as well as standards for inclusion/exclusion of primary studies. Typically, narrative or box-score reviews will review literature but without a formal statement about how the literature search was conducted. Meta-analysis should be expected to demonstrate some articulated and replicable method of gathering materials. The setting forth of the methods of literature search permits the reviewer and reader to evaluate the scope and conditions of the review to determine the weight a review should receive. While no generally accepted guidelines exist for what constitutes an adequate search procedure, the articulation of what indexes were consulted, the years of inclusion, the key words used, and the whether unpublished papers were sought is often expected. The key is not the requirement of particular indexes or standards but rather that the reviewer demonstrate what efforts were made to gather pertinent information. This permits the discipline to evaluate the nature of the review.

The last criteria is the rule for exclusion/inclusion. This standard permits others to understand why materials were handled in a particular manner. The key to remember is that the

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meta-analysis establishes a set of standards that may or may not use terminology consistent with the entire base of the literature. For example, Allen and Preiss (1997) did not include in their meta-analysis comparing the persuasiveness of narrative and statistical evidence studies involving the base-rate fallacy, despite the fact that other earlier reviews did include this information (Baesler & Burgoon, 1994; Reinard, 1988). The key to meta-analysis is the establishment of boundaries for inclusion/exclusion that are clearly articulated so that the research community will understand the basis of the decision. This is important since methodological procedures, variable labels, and other research processes change over time. Research conducted decades ago may use fundamentally different terminology to refer to the same concepts in current research. The key is to provide a definition that operates at a conceptual level for operationalization that will transcend these potential differences. Meta-analysis routinely must consider these circumstances and provide solutions to permit the comparison of data (these differences suggest one possible moderator variable analysis).

Meta-analysis offers not a perfect solution to the problems of assessment of an empirical literature. Meta-analysis offers a method of considering various statistical, methodological, and theoretical issues. The key is that unlike most traditional reviews, any scientist can for themselves replicate and verify or challenge the conclusions of a meta-analysis. The focus on explicit rules for assessment and the articulation of standards creates a superior form of review.

Intercultural Communication Competence

Gudykunst and Nishida (1989) suggest there are at least three sources for the development of theory in intercultural communication. These include, extending existing intracultural communication theories, using theories developed in other disciplines, and

developing new theories from research specific to intercultural communication. Efforts toward theory construction and research in intercultural communication competence, have been especially influenced by developments in theory and research methodologies emergent in interpersonal communication. Consequently, concerns about nomenclature and theoretical integration in intercultural communication competence have paralleled or emerged from similar dialogues among interpersonal communication scholars. Their influence is apparent and important in the intercultural communication competence literature. However, since the focus of this study is to evaluate research produced by scholars specifically concerned with communication competence in intercultural contexts, the literature reviewed is predominantly domain specific.

There are two conceptual levels at which inconsistencies occur in the nomenclature used for intercultural communication competence which may subsequently contribute to the lack of conceptual explanatory integration. First, variations exist in past research for how the phenomena itself is labeled. Second, inconsistencies occur in how specific competence attributes are categorized and labeled.

Variations in Nomenclature for Intercultural Communication Competence

In the past, several labels have been used in addition to intercultural communication competence including: cross-cultural adjustment, cross-cultural adaptation, cross-cultural success, cross-cultural effectiveness, cross-cultural failure, personal adjustment, personal success or personal failure, cross-cultural awareness, multiculturalism, cultural competence, and intercultural competence (Koester, et al., 1993; Taylor, 1994). The two most frequently used terms seem to be intercultural communication competence and intercultural communication

effectiveness (Abe & Wiseman, 1983; Chen, 1990; Koester, et al., 1993). The preeminence of these two labels is perhaps reflective of their relationships with two concepts prevalent in definitions of communication competence: effectiveness and appropriateness (Chen & Starosta, 1996).

In general, the use of *effectiveness* seems to be more oriented towards describing successful communication interaction outcomes and *competence* is used to describe communication interactions which are deemed as having successful outcomes (effective) and which are also evaluated as consistent with normative expectations for the interaction (appropriate). Spitzberg (1991) differentiates effectiveness and appropriateness by noting, "Effectiveness is the successful accomplishment of valued goals, objectives, or rewards relative to costs. Appropriateness means that the valued rules, norms, and expectancies of the relationship are not violated significantly" (p. 354). Hence, intercultural communication competence is perceived as an evaluation of both communication effectiveness and appropriateness (Koester, et al., 1993) while intercultural communication effectiveness may be perceived as goal or outcome oriented, with or without acknowledging evaluations of appropriateness. Though some scholars disagree on the conceptualization of competence as effectiveness or appropriateness (Imahori & Lanigan, 1989), the rationale for including appropriateness as a criteria for determining competence comes from a variety of perspectives.

Some scholars (see Kim, 1993) have argued that when intercultural communication competence is conceptualized as "identical to or exchangeable with performance outcomes" (p. 263), this is problematic because people do not necessarily produce effective communication even when they are generally competent communicators. Others, such as Phillips (1983) note

that the term "competence" is preferable because "to be competent in intercultural interaction, individuals must communicate effectively and appropriately" (p. 257), implying that effective attainment of communication goals does not equate to competence unless the efforts towards goal accomplishment are also deemed appropriate. In response to differing opinions, Chen (1990) advocates, "The usage must be crystallized in future studies. Obviously the term 'competence' is preferable, especially in an intercultural communication setting ... effectiveness is only one of two variables for conceptualizing competence. Another variable, "appropriateness, " plays a role of equal significance (p. 257).

Koester, et al., (1993) also advocate using the label, "intercultural communication competence" for three main reasons: (a) "The term *competence* has roots in sociolinguistic traditions,..., giving it increased credibility" (p. 6); (b) general consensus in the field of communication to use the term *competence* motivated by "methodological innovations in the conceptualization and measurement of the concept" (p. 6); and (c) the general agreement among communication scholars that effectiveness and appropriateness are its two most critical dimensions.

Spitzberg and Cupach (1984) describe the relationship between effectiveness and appropriateness as an evaluative process which occurs during communication interactions. They describe this process noting, "The perception of competence is a graduated phenomenon in which behaviors, affective responses, and cognition are enmeshed within an unfolding dynamic process of conversation" (p.109). Chen and Starosta (1996) suggest that in evaluations of competence, "appropriateness" enmeshes three different abilities: (a) the ability to understand how contextual constraints necessitate compliance to different sets of communication rules and

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to act accordingly; (b) "the ability to avoid inappropriate responses" (p. 357); (c) the ability to perform communication functions including, "controlling, sharing feelings, informing, ritualizing, and imagining" (p. 357).

In summary, there appears be consensus among many intercultural communication scholars as well as interpersonal communication scholars that both *effectiveness* and *appropriateness* should be included in definitions of intercultural communication competence. Many scholars as a consequence seem willing to use intercultural communication competence in preference to other labels, including intercultural effectiveness. Given the conceptual relationships existing between these two labels there may be some rationale for categorizing much of the past research regardless of what label it appeared under, as pertaining to intercultural communication competence. This may be particularly true for the research which focused on intercultural communication effectiveness. However, there is no empirical evidence to support or disconfirm the similarity of these concepts. One test of whether intercultural communication effectiveness and intercultural communication competence are different concepts is whether they produce divergent or inconsistent findings relative to each other in a meta-analysis (Allen, Hecht, & Martin, 1996).

Labeling and Categorizing Variables

Taylor (1994), describes intercultural communication competence research efforts as primarily focused on the identification of predictor variables. One of the most frequently cited (Hammer, 1984; Kealey, 1989; Nishida, 1985; Ruben & Kealey, 1979) of the studies which identified competence variables is Ruben's (1976) list of seven dimensions of competence: (a) display of respect, (b) interaction posture, (c) orientation to knowledge, (d) empathy, (e) self-

oriented role behavior, (f) interaction management, and (g) tolerance for ambiguity.

Ruben (1976) proposed that *display of respect* referred to a person's ability to convey respect and positive affects toward another by using proper "eye contact, body posture, voice tone and pitch, and general displays of interest" (p. 339). *Interaction posture* involved displaying a "descriptive, nonevaluating, and nonjudgmental" (p. 340) perspective in responding to others. *Orientation to Knowledge* was the ability to recognize that knowledge can be individual in nature or that what one perceives as "truth" and "right" are not necessarily perceived "true" and "right" by another.

Empathy, consistent with popular definitions, was the ability to "put oneself in another's shoes". *Self-Oriented Role Behavior* referred to the ability of individuals to demonstrate flexibility in functional roles related to task accomplishment and problem solving while balancing or cycling the roles related to positive relationship-building. *Interaction management* implied a person's ability to engage in turn-taking, and other behaviors associated with managing communication flow in interactions, with regard for the "needs and desires" of the other participants. Finally, *tolerance for ambiguity* involved the ability to adjust comfortably and quickly to the ambiguity of new and changing situations.

Other research efforts have produced multiple lists of competence predictors. However, because research in this area has stemmed from multiple perspectives and lacked conceptual and methodological integration, the bulk of the research is on attributes of intercultural communication competence is represented by fragmented lists of attributes. Examples of attributes identified in these lists include: (a) "ability to adjust to different cultures, (b) ability to deal with psychological stress, (c) ability to establish interpersonal relationships, (d) awareness

of implications of cultural differences, (e) charisma, (f) empathy/efficacy, (g) interpersonal flexibility, (h) interpersonal harmony, (i) self-consciousness, (j) self-disclosure, (k) social adjustment, (l) strength of personality," (Spitzberg, 1991, p. 355). Lustig and Koester (1993) suggest that these fragmented studies embody at least four different investigative approaches: (a) trait approach, (b) perceptual approach, (c) behavioral approach, and (d) culture-specific approach.

The trait approach was taken by researchers interested in trying to determine the personality and individual characteristics of persons who seem to have success in intercultural interactions. Some examples of the attributes identified through this approach include, world-mindedness and relativistic values. Researchers attracted to this approach have had mixed success in identifying specific individual characteristics which corresponded to successful intercultural encounters. Their efforts have been limited by the complexity of the phenomenon (Lustig & Koester, 1993). For example, a person who is competent in one intercultural interaction may not be competent in the next which makes it difficult for researchers to identify a specific personality characteristic or attitude which enables a person to be consistently perceived as a competent intercultural communicator.

The perceptual approach focused on "identifying groups of attitudes or perceptions which are related to successful intercultural interactions" (Lustig & Koester, 1993, p. 64). The ability to deal effectively with stress and the ability to establish relationships are examples of two attributes identified from this approach. Trainers seem particularly interested in the perceptual approach because any attitudes or perceptions identified as contributing to intercultural success

can be incorporated into training modules that prepare people to more effectively meet the demands of intercultural communication interactions.

In the behavioral approach, researchers based their studies on observations of how successful intercultural communicators behaved or collected self-reports of behaviors which communicators felt helped themselves or others to effectively communicate in intercultural contexts. Ruben's (1976) list of behaviors is cited as an example of this approach. Martin and Hammer's (1989) study is also based on the behavioral approach. From this approach researchers have identified several behavioral categories associated with intercultural communication competence such as attentiveness and interpersonal inclusion as well as specific or micro behaviors associated with competence including smiling, laughing, leaning toward the other person, nodding the head, shaking hands, and speaking clearly (Martin, et al., 1994).

The fourth approach identified by Lustig and Koester (1993) is the culture-specific approach. This approach, in contrast to the other three approaches assumed that competence required culture-specific awareness and behaviors, such as the ability to show respect in Japan. Culture-specific attributes may include manners, as well as ritualized behaviors for specific contexts within the culture.

Several other attempts have been made to conceptually categorize the attributes produced from these different perspectives in order to organize them. For example, Brislin (1981) suggested that intercultural competence included six types of social skills: (a) knowledge of the subject matter; (b) language; (c) communication skills; (d) positive orientations to opportunities; (e) ability to use such traits as tolerant personality, personality strength, social relations, problem-solving abilities, task orientation, and potential for benefit; and (f) ability to complete

their tasks. Interestingly, although no particular rationale is identified in the literature, the majority of categorizations recommended, have included three categories.

For example, Hammer, Gudykunst & Wiseman (1978) suggested that intercultural communication competence had three factors: (a) ability to deal with psychological stress, (b) ability to communicate effectively, and (c) ability to establish interpersonal relationships.

A popular model utilized by several researchers (e.g., Cui & Awa, 1992; Cui & Van Den Berg, 1991; Gudykunst, 1991, 1994; Gudykunst & Kim, 1984, 1992; Martin, 1987) is Spitzberg and Cupach's (1984) model. In their model intercultural communication competence attributes are separated into (a) cognitive, (b) affective, and (c) behavioral categories. Cognitive components deal with how people process information. The affective component includes the "sentiment and emotion attached to the information processed" (p. 192), and the ability to demonstrate proper behavior constituted the behavioral component. Some category schemes focus on related though distinctly labeled versions of these attribute categories. For example, the cognitive category is frequently labeled as knowledge; the affective category is often described as motivation; and the behavioral category has frequently been labeled as skills.

The importance of the motivation category has been emphasized by Spitzberg & Brunner (1991) in their discussions of interpersonal communication competence. They have argued, "Individuals may be incompetent not because they lack skills, but because they simply are not motivated to make a competent impression" (p. 32). Despite their emphasis on motivation and its seeming importance to intercultural communication the motivation category has been frequently omitted from intercultural communication competence studies. As Chen (1991) notes, most of the research in intercultural communication competence has focused on the

knowledge and skill categories and most of the attributes identified can fit into these categories. As a result, this study will primarily explore the relationship between the knowledge and skill categories.

Most researchers, regardless of how they categorize and measure intercultural communication competence attributes are consistent in believing that both knowledge and skills/behaviors are requisite for intercultural communication competence (e.g., Dinges, 1983). What is has not typically been examined is the relationship between knowledge-based and skill-based attributes in predicting intercultural communication competence. Hence, the second focus of this study is to empirically explore this relationship.

Moderator Variables of Intercultural Communication Competence

This study will also explore the relationship between five moderators (report type, age, context, ethnic group, and study design) and the association of intercultural communication competence and intercultural communication effectiveness.

Report type.

Several discussions have taken place among researchers concerning the question of how intercultural communication competence should be measured. Typically self-report data is collected, but scholars have also advocated the use of other-report methods or a combination of self-report and other-report methods (Chen, 1990). The emphasis placed on others ratings or the combination of the two methods springs from recognition by scholars that since degrees of appropriateness must be assessed to determine competence, perspectives of appropriateness must be assessed not only from the target perspective but the participants or observers of the communication interaction. Moreover, some scholars advocate the collecting of relational data

as opposed to individual level data to more validly address the operationalization of intercultural communication competence (Imahori & Lanigan, 1989).

Age.

The majority of the studies on intercultural communication competence or intercultural communication effectiveness have used college-aged respondents who may or may not have studied/worked abroad. The remaining studies typically focus on respondents who have lived or worked abroad, after college-type training or experience in the business world. One may conjecture that older subjects may have had more interpersonal and intercultural experiences which would contribute to variance in perceptions of competence.

Context.

Criticisms of past intercultural communication competence research (See Martin, et al, 1994) frequently address the lack of effort made by researchers to account for the role of context in their analyses of intercultural communication competence. These criticisms are valid especially given the frequency with which overt or implicit references are made to the appropriateness of behaviors for specific contexts (See Spitzberg, 1989; Spitzberg & Brunner, 1991). Further, the relationship of communication and context has been of particular importance to intercultural scholars. Chen (1990), for example, suggests that one of the primary differences between intercultural communication and interpersonal (intracultural) communication scholars is the emphasis the intercultural communication scholars place on the environmental factors. The consideration or lack of consideration to context, and the types of contexts measured may make a

difference in perceptions of the strength of the association between intercultural communication competence and intercultural communication effectiveness.

Ethnic Background.

Inherent to the origins of intercultural communication competence research is the assumption that members of different cultures may have different expectations for what behaviors would constitute competent communication. As Kim (1993) notes, "At the heart of the concept of culture is the notion that people from different cultures develop distinctive interaction styles and preferred communication strategies" (p. 132). The bulk of the research investigating intercultural communication competence is focused on cultural differences as they are manifested through communication behaviors. One consideration that evades the attention of researchers is whether differences exist at the conceptual level. Are cultures similar or distinct in perceiving competence as inclusive of both effectiveness and appropriateness? For example, most researchers take a goal oriented approach to measuring competence (Lynch & Mosier), but do all cultures take a goal oriented approach to conceptualizing competence (Martin, 1993)? The conceptual equivalency of competence has not been established across cultures and culture may moderate the association between intercultural communication competence and intercultural communication effectiveness.

Design Type.

A variety of design types have been used to explore competence and effectiveness in intercultural interactions. Researchers have primarily focused on testing general individual measures of competence (individual) or interactions specified to be intercultural (dyadic), . A few have focused on individuals who are or have lived overseas and what skills or knowledge

they perceive are related to performing competently or effectively (overseas). Little attention has been paid to thinking about how the design type may influence perceptions of competence.

Research Questions

In summary, based on a review of the intercultural communication competence literature and summary potential of meta-analytic techniques, the following research questions will be considered in this study:

RQ1: Do intercultural communication competence studies and intercultural communication effectiveness studies produce divergent or inconsistent findings?

RQ2: What is the relationship between knowledge-based and skill-based attributes in predicting intercultural communication competence?

RQ3: Does the report type (self-report and observer report) affect the association between intercultural communication competence and intercultural communication effectiveness research?

RQ4: Does subject age contribute to differences in the association between intercultural communication competence and intercultural communication effectiveness studies?

RQ5: Does the association between intercultural communication competence and intercultural communication effectiveness studies vary by context?

RQ6: Is culture (ethnic background) a mitigating factor in the association of intercultural communication competence and intercultural communication effectiveness studies?

RQ7: Is there a relationship between the study design type and the association between intercultural communication competence and intercultural communication effectiveness studies?

Methods

The focus of a meta-analysis is to gather available quantitative studies on a topic and then to statistically determine the average effect size across all of the studies. This is accomplished by first, taking information from each study and coding it for statistical comparison by converting it to a common metric. Next, an average correlation is calculated. If this correlation is significant, the correlations contributing to the average are tested to determine whether the observed effects are homogeneous.

Literature Search

Literature was located which explored issues of competence or effectiveness in the context of intercultural communication or reported cross-cultural comparisons of competence or effectiveness. The first phase of the literature search involved computer assisted searches of the Index of Journals in Communication Studies, the Dissertation Index, the Sociological Abstracts, and a manual search of the International Journal of Intercultural Relations and the internet. During the second phase, the reference sections of all obtained materials including a few recent unpublished conference papers and one paper collected off the internet, were combed for additional references. No year limit was set prior to the literature search, however the constructs did not appear prior to the 1970's and studies were collected from publications and conferences through Fall, 1997.

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To be included in the meta analysis, manuscripts had to meet two criteria. First, they had to contain recoverable quantitative data measuring aspects of intercultural communication competence or effectiveness. Second, measurements had to occur within the context of intercultural interaction or report cross-cultural comparisons of competence.

A total of 71 manuscripts were obtained. Over half of the studies (n = 38, 54%) were not empirical research studies. Among these, some were literature reviews which offered theoretical perspectives and/or critiques of the existing research on intercultural communication competence or specific practical applications of intercultural communication competence (Beamer, 1992; Chen, 1990; Chen & Starosta, 1996; Collier, 1989; Cupach & Imahori, 1993; Dinges, 1983; Dinges & Duffy, 1979; Fontain, 1991; Gudykunst, 1991, 1993, 1994; Gudykunst & Hammer, 1984; Gudykunst & Kim, 1984, 1992; Hammer, 1989; Hannigan, 1990; Hwang, Chase, & Kelly, 1980; Imahori & Lanigan, 1989; Kaye, 1992; Kim, M., 1993; Kim, Y., 1991, 1992; Koester, et al., 1993; Lee, 1994; Lustig & Koester, 1993; Lustig & Spitzberg, 1993; Lynch & Mosier, 1996; Martin, 1993; Miyahara, 1991; Ruben, 1977; 1989; Spitzberg, 1989, 1991, 1994, 1997; Taylor, 1994; Ting-Toomey, 1994, 1997). Also, omitted from the study were twelve manuscripts which had data that were unusable (measurement only, single attribute, qualitative, or unrecoverable) (See Abe & Wiseman, 1983; Bradford, Meyers, & Kane, 1996; Collier, 1986, 1988, 1991; Dinges & Lieberman, 1989; Hammer, 1987; Hammer, et al., 1978; Martin & Hammer, 1989; Ruben, 1976, Wiseman & Abe, 1986, Wiseman, Hammer, & Nishida, 1989). Three manuscripts (Cui & Awa, 1992; Martin & Bradford, 1992; Redmond, unpublished) were omitted because they reported from the same data set as an earlier published study or were conference paper presentations that were later published (Cui & Van Den Berg, 1991; Martin, et al., 1994;

Redmond & Bunyi, 1993). Data from the published manuscripts were used. One manuscript was omitted because the data was longitudinal (Cornett-DeVito, 1997) and one was omitted because it focused on competence dimensions instead of measurements of competence indicators (Chen, 1989). Sixteen manuscripts met all of the selection criteria (See Table 1).

Coding Scheme

The studies were coded for five characteristics. Due to the relatively small number of studies which contained quantitative data which fit the study criteria, the number of categories chosen were necessarily small and broad-based. Each of the categories will be described below.

Type of Report.

The type of report was operationalized for where the locus was for determining intercultural communication competence, self-report or observer rating. While scholars criticize the reliance of research on individual evaluations of competence and advocate a relational approach (Koester, et al., 1993), the research has primarily measured intercultural communication competence using self-report measures or reports of independent observers. For example individuals may be asked what skills they felt were most important for achieving success in an intercultural situation or observers may be asked to rate a sojourner's ability to interact successfully in a host culture. Data were categorized as self-report or observer rating.

Age.

Age was operationalized as the average of the subjects ages, if this information was provided in the study. If the study did not give the age of the subjects, but indicated that they were college students, the age was arbitrarily designated as 21, a typical average age for college students. If subjects were professionals or advisors and no age was provided, the age of 35 was

assigned. Thirty-five was chosen, because we assumed that most of these individuals would have finished college and had some work experience in their home countries before receiving intercultural overseas assignments.

Context.

Context has not been given as much attention in intercultural communication competence research as it has in interpersonal communication competence research. The Martin, et al. (1994) study represents one of the few attempts to compare perceptions of competence across multiple contexts. However, there has been some variation in the contexts selected for individual studies. Four categories were used to classify context: social (including interpersonal relationships or social get togethers), task (job related interactions), episodes (dyadic interactions or contrived episodes which were evaluated for competence), and undefined (overall communicative behavior was evaluated as opposed to behavior in particular contexts).

Ethnic Background.

The subjects' ethnic background varied some between the studies, however, the majority of the subjects were either U. S. Americans or Canadians. A few studies focused on cross-cultural comparisons of intercultural communication competence. Hence, the data were classified into three categories: North Americans (U.S. Americans and Canadians), Non North Americans, and cross-cultural comparisons (domestic and international)

Design Type.

Studies primarily focused on individual intercultural communication competence within interactions, individual's abilities to successfully communicate while living overseas, or

evaluations of successful communication when the focus was on an intercultural dyad. Data was categorized as individual, dyadic, or overseas.

Independent Variable.

The independent variable was categorized as either skill based or knowledge based. Despite the large variation between categories of attributes, as Chen (1991) notes, the most discussed categories of attributes in intercultural communication competence are knowledge and skills. Data were categorized as knowledge based if the categories of attributes which emerged from the studies as indicators of competence were cognitive or affective. Rationale for classifying affective attributes as knowledge based, is derived from the cross-cultural training perspective. One of the underlying assumptions of cross-cultural training is that people's cultural sensitivities may be learned (See Bennett, 1986). Data were categorized as skill based if attribute categories emerged which were demonstrated or perceived abilities, or specific skills such as language fluency and listening skills.

Statistical Analysis

First, an effect size was produced for each of the quantitative studies in the analysis. The correlation coefficient was the metric computed for this analysis. This correlation was calculated by estimating (weighing for sample size) using standard meta-analytic techniques (Hedges & Olkin, 1986; Hunter & Schmidt, 1990; Hunter, Schmidt, & Jackson, 1982; Rosenthal, 1985, 1987). Then, since a significant positive correlation was found which indicated that the correlations were heterogeneous, additional analyses were run to identify a moderator variable which could help explain the variance in the studies.

The representation of an average effect assumes that the differences in individual effects is the result of random sampling error. A test of this is a comparison between the variability in effects expected on the basis of sampling error to the actual degree of variability in the observed effects. This comparison is distributed as chi-square with k (number of studies) minus 1 degrees of freedom (df). A significant chi-square indicates that the average effect should be interpreted cautiously and some account of the excess variability considered in terms of how potential moderator influences might cause a change in the interpretation of the effect.

The analysis of moderators considers whether identified features contribute to differences in the size of observed associations. The key is to consider a comparison of how a moderator contributes to an understanding of differences in the level of variability. This is similar to the analysis of variance testing of between group variance to within group variance (Hall & Rosenthal, 1991). The completely satisfactory solution for a successful moderator analysis is to find groups that are homogeneous but a comparison of the mean effect demonstrates a significant difference between the groups.

Results

Overall

A total of sixteen investigations into intercultural communication competence or effectiveness with a total of 3127 participants demonstrated an average positive correlation (ave $r = .280$) that was smaller than the overall correlation estimated (See Table 1). The distribution of effects is heterogeneous ($X^2_{(23)} = 154.39$, $p < .05$). Hence, the overall analysis revealed a positive correlation between intercultural communicative competence and effectiveness. The average effect indicated that the association was heterogeneous, the chi-square indicated more

variability than would be expected due to random chance. The 95% confidence interval estimate indicated that the average effect was still positive across all the studies, so any probable moderators were most likely to distinguish between larger and smaller positive effects.

Measures of Communicative Competence Comparing Skills versus Knowledge.

When the analyses considered knowledge based and skill based studies separately, the average effect increased more substantially for knowledge (ave. $r = .323$, $N = 806$, $k = 10$) than skill (ave. $r = .265$, $N = 2321$, $k = 14$). The data suggested that in both studies knowledge and skills were significantly related to intercultural communication competence. However, estimates using knowledge to evaluate competence demonstrated a higher association ($X^2_{(9)} = 34.11$, $p < .05$), based on a sample of heterogeneous correlations, than those studies rating skills. This finding demonstrates a more positive relationship between knowledge and the association between intercultural communication competence and intercultural communication effectiveness studies than for skills.

Moderator Relationships

Measures of Communicative Competence Considering Report Type.

Previous intercultural communication competence research was analyzed for two report types (self-report and observer ratings) separately (See Table 2). The analysis of self-report studies demonstrated a more positive correlation (ave. $r = .296$, $N = 2920$, $k = 20$) for self-reports than observer ratings (ave $r = .056$, $N = 207$, $k = 4$). Self-report studies were more significantly correlated ($X^2_{(19)} = 135.54$, $p < .05$) than studies using observer ratings. Further, the four studies using observer ratings were not significantly correlated with the association

between intercultural communication competence and intercultural communication effectiveness.

Influence of Age on Communication Competence.

When age was correlated with the size of the association between intercultural communication competence and intercultural communication effectiveness, the data revealed a negative correlation ($r = -.54$, $p < .05$). As the age of the sample increases the association between intercultural communication competence and intercultural communication effectiveness appears to significantly decreases.

Measures of Communication Competence Considering Context.

When context (social, task, episodes, and undefined) was considered as a moderator variable for the association between intercultural communication competence and intercultural communication effectiveness, each context type was analyzed separately (See Table 2). This analysis demonstrated positive correlations with the association between intercultural communication competence and effectiveness for studies focused on social contexts (ave. $r = .242$, $N = 766$, $k = 7$) and those focused on episodes (ave. $r = .277$, $N = 1930$, $k = 11$), based on a heterogeneous sample. Episodic studies were more significantly correlated with the association between intercultural communication competence and effectiveness, based on a heterogeneous sample ($X^2_{(10)} = 105.43$, $p < .05$) than any other context type. The five studies which focused on task were not found to impact the association between intercultural communication competence and effectiveness (ave. $r = .246$, $N = 276$, $k = 5$) and since only one study used undefined contexts, this relationship was unexplorable.

Measures of Communication Competence Considering Ethnic Background.

The relationship of ethnic background and the association between intercultural communication competence and intercultural communication effectiveness was explored by analyzing each ethnic group (North American/Canadian, Non North American/Canadian, and interactive ethnic groups) separately (See Table 2). Data Non North American/Non Canadian (ave. $r = .348$, $N = 1384$, $k = 6$) revealed a positive association between intercultural communication competence and effectiveness and was heterogeneous ($X^2_{(5)} = 102.39$, $p < .05$). Analysis of North American/Canadians (ave. $r = .314$, $N = 700$, $k = 9$) demonstrates a similar, but non significant relationship based on a homogeneous set of findings ($X^2_{(8)} = 14.46$, $p < .05$). Analysis of the interactive ethnic group studies demonstrated a much smaller average correlation (ave. $r = .167$, $N = 1043$, $k = 9$) based on a heterogeneous sample of effects ($X^2_{(8)} = 20.67$, $p < .05$).

Measures of Communication Competence Considering Study Design.

When the study design was considered as a moderator variable the analysis was conducted using each type (individual, dyad, and overseas) separately (See Table 2). The data based on these individual analyses demonstrated a positive correlation (ave. $r = .281$, $N = 2450$, $k = 17$) based on a heterogeneous sample ($X^2_{(16)}$, $p < .05$). There was only one study using the dyadic design and that study found a positive correlation. The overseas studies demonstrate a similar positive correlation (ave. $r = .277$, $N = 621$, $k = 6$) based on a homogeneous sample of effects ($X^2_{(6)} = 8.07$, $p < .05$).

Discussion

This study was an empirical effort to integrate previous intercultural communication research efforts. Two primary issues were explored relating to concerns over terminology inconsistencies and the explanatory integration of attributes associated with intercultural communication competence. First, the study explored the association between past studies on intercultural communication effectiveness and intercultural communication competence. Second, the study examined the relationship between knowledge-based and skill-based attributes in predicting intercultural communication competence. Moderator variables including report type, age, context, ethnic background, and design type were also explored.

Results of this study suggested empirical support for arguing that there is a strong association between studies of intercultural communication competence or intercultural communication effectiveness. In other words, the measurement of intercultural communication competence and intercultural communication effectiveness was demonstrated to be equivalent. Although, scholars may continue to suggest that competence and equivalence are conceptually different concepts, they appear to have been operationalizing then same phenomena. This finding provides researchers with empirical rationale for integrating results from studies focusing on intercultural communication competence with results from studies focusing on intercultural communication effectiveness when exploring intercultural communication competence.

Results also demonstrated that both knowledge and skills were positive predictors of the association between intercultural communication competence and intercultural communication effectiveness. Further, knowledge appeared to be better predictor of this association than skills. In other words, more knowledge about communicating in intercultural communication

interactions, appears to contribute to a perception of greater similarity between competence and effectiveness in intercultural communication. Intuitively, this finding seems valid, since knowledge about what is both effective and appropriate behavior often precedes the ability to behaviorally demonstrate this knowledge. In short, behaviors typically lag behind knowledge. Finally, there are multiple examples of interaction cases in which a persons have known what behaviors would be effective for accomplishing goals, but have not possessed the skills necessary for meeting those goals.

The investigation of the moderator relationships demonstrated that report type, age, and ethnic group were significantly correlated with the association between intercultural communication competence and intercultural communication effectiveness. Overall, the majority of the correlations calculated to explore the relationships between the moderator variables and the association between intercultural communication competence and intercultural effectiveness were positive which suggests the need for future research attention focused on exploring the source of this variance. There exists the possibility of a double moderator effect--but too few empirical analyses have been located to allow statistical exploration for this effect.

Specifically, self-report studies show a greater association between competence and effectiveness than observer reports. This finding suggests that when individuals report on their own competent behavior that their perceptions of the association between intercultural communication competence and effectiveness differ from observers perceptions of that relationship. Further research is necessary better explain why observers seem to make greater distinctions between competency and effectiveness in their evaluations. However, one explanation for these differences may be rooted in a lack of congruency between how effective

and appropriate people think they behave and observers perceptions of their actual behavior. In other words, the difference may be a perceptual artifact in the sense that individuals more than observers assume that if behaviors are appropriate they are also effective and vice versa.

Older subjects or subjects who are beyond the average age of college students appear to see less of a connection between competence and effectiveness in intercultural communication interactions. This finding may indicate that as people get older they have, as a result of experience, a different sense of the relationship between competence and effectiveness than younger, less experience communicators have. However, this finding may simply be an artifact of the operationalization of this variable. Since many of the studies did not report subject age, age had to be conjectured from the description of where the data was collected, such as in undergraduate college course or among business people who had sojourned abroad. Subjects in college samples were assigned the age of 21 (frequently the average age of students in communication related studies) and samples of adults who were employed in organizations were assigned the age of 35 (an age at the younger-middle end of the work force age when workers typically have sufficient skills and health to go abroad). While more research should be done to further explore the validity of this relationship, the significance of this finding is that argues for the reporting and consideration of subject age in intercultural competence studies.

In competence and effectiveness studies which focus on cross-cultural comparisons (domestic and international), a greater distinction between intercultural communication competence and effectiveness is perceived than in studies on single groups (North American/Canadian and Non North American/Non Canadian). This finding may lend support for arguing that emic differences exist in perceptions of which behaviors and knowledge are

competent, but more cross-cultural research is needed to identify the magnitude and description of these variations. Also, the majority of the cross-cultural studies have focused on components (skills or knowledge) of effectiveness or competence, but studies are needed which explore intercultural competence at the conceptual level to determine if cultural perceptions of "competence" are equivalent.

Finally, it is clear from the difference in the number of manuscripts with empirical research versus the number of conceptual and theoretical manuscripts and overviews of the literature, that as Dinges (1983) noted, the empirical research in intercultural communication is "quite meager" compared to the conceptual efforts of scholars to create models of intercultural communication competence. While the theoretical efforts are necessary and important to the study of intercultural communication competence, more research efforts should be aimed at empirically testing theoretical assumptions and the measurement of various moderator variables.

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Table 1

Sample Size, Codes and Effect Sizes of Manuscripts Used in the Meta-Analysis

First Author	Year	Sample Size	Independent Variable	Effect Size
Chen	1991	56	Skill	+.258
	1991	114	Skill	-.101
	1991	114	Knowledge	+.226
Cui	1991	70	Skill	+.381
Driskill	1991	39	Knowledge	+.308
Gorman	1991	95	Skill	+.430
	1991	95	Knowledge	+.421
Hammer	1984	25	Skill	+.127
Hopkins	1982	209	Skill	+.377
Kealey	1989	130	Skill	+.158
Martin	1987	175	Skill	+.180
Martin	1994	434	Skill	+.025
Matsufuji	1996	49	Skill	+.440
	1996	49	Knowledge	+.500
Milhouse	1993	214	Knowledge	+.120
	1993	150	Skill	+.125
	1993	150	Knowledge	+.120
	1993	150	Skill	+.114
	1993	150	Knowledge	+.156
Nakanishi	1995	155	Knowledge	+.573
Nishida	1995	17	Knowledge	+.780
	1995	17	Skill	+.163
Redmond	1993	647	Skill	+.526
Ruben	1979	12	Knowledge	+.456
Wang	1992	25	Knowledge	+.357
Total		3247		

Table 2

Moderator Effects On Intercultural Competence

Moderator	k	N	ave. r	X^2
Overall	24	3127	.280	*154.388
Report Type				
Self-Report	20	2920	.296	*135.54
Observer	4	207	.056	7.19
Context				
Social	7	766	.242	*26.07
Task	5	276	.246	0.00
Episodes	11	1930	.277	*105.43
Undefined	1	155	.573	(NA)
Ethnic Background				
No. Am/Canadian	9	700	.314	14.46
Non No. Am/Can.	6	1384	.384	*102.39
Interaction	9	1043	.167	*20.87
Study Design				
Individual	17	2450	.281	*146.48
Dyad	1	56	.258	(NA)
Oversees	6	621	.277	8.07

* Correlation is significant at $p < .05$

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